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AUTHOR	Fireman, Gary D.; Hutcherson, Suzy; Chilton, Amy Jo; Wang, Eugene
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ABSTRACT

The purpose of this study was to determine how well various peer nomination factors predict to long-term low frequency but highly disruptive elementary age classroom behaviors that result in school disciplinary action. Peer nomination measures to determine six factors (prosocial, social preference, overt aggression, relational aggression, impulsivity, and social impact) were administered to 838 third through fifth grade students in the spring of 2000 and 344 students were re-assessed in the spring of 2001. In the spring of 2001, the occurrence of four school disciplinary actions (in-school suspension, out-of school suspension, corporal punishment, and placement in disciplinary alternative) was collected on the 838 students assessed in 2000. Consistent with prior research, the peer nomination measures were highly reliable. Using Receiving Operating Characteristics analyses the findings indicated that low prosocial skills, high overt aggression, and high impulsivity were independently strong predictors of school disciplinary actions. These findings were similar across grade and ethnicity. However, the impulsivity factor was a stronger predictor of disciplinary action for girls than for boys. (Author)

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Predicting School Disciplinary Problems:

The Validity of Peer Nomination Measures

Gary D. Fireman, Ph.D., Suzy Hutcherson, B.S.

Amy Jo Chilton, B.A., Eugene Wang, Ph.D.

Texas Tech University

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Correspondence concerning this article should be addressed to Gary Fireman, Ph.D., Department of Psychology, Texas Tech University, Lubbock, Texas 79409. Electronic mail may be sent to G.Fireman@ttu.edu .

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Abstract

The purpose of this study was to determine how well various peer nomination factors predict to long-term low frequency but highly disruptive elementary age classroom behaviors that result in school disciplinary action. Peer nomination measures to determine six factors (prosocial, social preference, overt aggression, relational aggression, impulsivity, and social impact) were administered to 838 third through fifth grade students in the Spring of 2000 and 344 students were re-assessed in the Spring of 2001. In the Spring of 2001, the occurrence of four school disciplinary actions (in-school suspension, out-of school suspension, corporal punishment, and placement in disciplinary alternative) was collected on the 838 students assessed in 2000. Consistent with prior research, the peer nomination measures were highly reliable. Using Receiver Operating Characteristic analyses the findings indicated that low prosocial skills, high overt aggression, and high impulsivity were independently strong predictors of school disciplinary actions. These findings were similar across grade and ethnicity. However, the impulsivity factor was a stronger predictor of disciplinary action for girls than for boys.

Researchers have consistently found that peer informants provide valuable information about children's social behaviors (Hymel & Rubin, 1985). Over the past 10 years, peer nomination measures have increased in their degree of specificity of the dimensions of children's social behavior assessed. This coincides with the view that a single global measure of behavior is unlikely to capture the particular features of children's social interactions required for the development of informed interventions and remedial plans. For example, Nicki Crick (1996) developed a set of items for elementary school age children to highlight the important distinction between the traditionally identified overt forms of aggression typically displayed by males (e.g., hitting, kicking, or name calling) and the powerful relational forms of aggression more often displayed by females (e.g., spreading rumors, excluding from the group, or ignoring a child). She found a high level of stability for these factors among both males and females over a period of one month and six months. Although many of the peer nomination factors have been found to be valid predictors of social and psychological difficulty, important questions remain as to how well factors predict to behavioral measures of school adjustment. Specifically, how well do various peer nomination factors predict to long-term (one year) low frequency but highly disruptive elementary age classroom behaviors that result in school disciplinary action.

The present study examined the reliability and predictive validity of two positive peer nomination measures (prosocial and social preference), three negative peer nomination measures (overt aggression, relational aggression, and impulsivity), and one general nomination measure (social impact) for third through fifth grade children. For the examination of predictive validity the criterion measure used was four disciplinary

actions administered by the school: in-school suspension, out-of-school suspension, corporal punishment, and placement in disciplinary alternative. In addition, the strength of peer nomination measures collected in the year 2000 to predict to school disciplinary actions in 2001 was compared to the strength of the disciplinary actions measured in 2000 to predict to disciplinary actions the following year. Furthermore, a preliminary examination was conducted to assess the strength of these measures by sex, ethnicity, and grade.

Validity was assessed using receiver operating characteristic (ROC) methods. ROC methods produce measures of effect size and represent a major advance over methods commonly used to evaluate the accuracy of predictions of low-base-rate behaviors such as school disciplinary problems (Rice and Harris, 1995). With a few testable parametric assumptions, ROC methods permit estimates of standard error, inferential statistical tests, and the combination of results across studies for meta-analysis.

Method

Participants and Procedure

In Spring 2000, 838 third through fifth grade students from an urban Texas community completed standard peer nomination and peer sociometric measures (Crick, 1996; Crick & Dodge, 1994; Pope & Bierman, 1999). The sample was comprised of 438 males (52%) and 400 females (48%); 304 Caucasian (36%), 340 Hispanics (41%), 178 African-Americans (21%), 11 Asians (1%), and 5 Other (<1%). There were 296 third graders (35%), 286 fourth graders (34%), and 256 fifth graders (31%). In the Spring of 2001, the occurrence of the four school disciplinary actions in the academic year of 2000 and 2001(in-school suspension, out-of-school suspension, corporal punishment, and

placement in disciplinary alternative) was collected on the 838 students assessed in 2000. Also in the Spring of 2001, 344 of the students were re-assessed with the peer nomination procedures. Of these 344, 188 (55%) were male and 156 (45%) were female, and 149 (36%) were Caucasian, 120 (35%) were Hispanic, 68 (20%) were African-American, 6 (2%) were Asian, and 1 (<1%) was Other.

Results

The long-term reliability of the peer assessment factors as evaluated with correlation coefficients were all highly significant, prosocial $r = .546$, $p < .01$; social preference $r = .623$, $p < .01$; social impact $r = .289$, $p < .01$; impulsivity $r = .680$, $p < .01$; relational aggression $r = .567$, $p < .01$; overt aggression $r = .701$, $p < .01$. The results were similar when examined separately by sex, ethnicity, and grade.

To examine predictive validity, the six factors derived from peer nominations were used as predictor variables, and the four school disciplinary actions were used as criterion variables. As a comparison, ROC analyses were also computed on year-to-year disciplinary actions. Given that the data yielded large effect sizes that were all statistically significant whereas moderate effect sizes were not consistently significant for this sample, predictive validity for a factor was considered supported only when there occured a large effect size. Evidence for the predictive validity of prosocial and overt aggression factors was found across all four disciplinary actions As seen in table 1, children nominated as having low prosocial skills and high overtly aggressive behaviors were most likely to have disciplinary actions the subsequent year. The impulsivity factor also produced large effect sizes for three of the disciplinary actions, but not for the fourth (see table 1). Children nominated as highly impulsive were most likely to be disciplined

with in-school suspension, corporal punishment, and placement in a disciplinary alternative the subsequent year. The factors of social preference, social impact, and relational aggression were inconsistent in predicting to the school disciplinary actions.

In comparing the effect sizes of peer nomination factors with "previous history" (i.e., whether disciplinary problems in 2000 predicted similar disciplinary problems in 2001), the overt aggression factor and the prosocial factor both had larger effect sizes than previous history for predicting to all four disciplinary actions (see table 1). Furthermore, the standard errors of all peer nomination factors were smaller than the standard errors of previous history. Finally, previous history did not adequately predict to the disciplinary actions of corporal punishment and placement in a disciplinary alternative.

To further examine the predictive validity of the peer nomination factors separate ROC analyses were computed by sex, ethnicity, and grade. The results for ethnicity and grade were frequently similar to the overall findings reported above. For the few instances where differences occurred no consistent pattern was apparent. However, the predictive validity for the impulsivity factor was distinct from the overall findings and differed for boys and girls. As can be seen in table 2, girls nominated as highly impulsive predicted to all four disciplinary actions, whereas boys nominated as highly impulsive predicted to only the disciplinary action of in-school suspension.

Table 1 Predictive Validity (2000 predictors and 2001 school disciplinary actions) (N = 838)

Factor [a]	Area Under Curve/SE	Asymptotic Sig.[b]	Effect Size[c]
Criterion: In-School Suspension (n = 82)			
History[d]	.696/.036	.000[e]*	Large
Prosocial	.660/.028	.000*	Large
Social Preference	.633/.032	.000*	Moderate
Social Impact	.606/.033	.002*	Moderate
Impulsivity	.719/.028	.000*	Large
Relational Aggression	.671/.031	.000*	Large
Overt Aggression	.727/.030	.000*	Large
Criterion: Out-of-School Suspension (n = 62)			
History[d]	.701/.041	.000*	Large
Prosocial	.711/.032	.000*	Large
Social Preference	.623/.036	.001*	Moderate
Social Impact	.524/.043	.523	
Impulsivity	.635/.038	.000*	Moderate
Relational Aggression	.597/.036	.011	
Overt Aggression	.710/.037	.000*	Large

Criterion: Corporal Punishment (n = 23)			
History[d]	.602/.068	.095	Moderate
Prosocial	.718/.043	.000*	Large
Social Preference	.460/.062	.508	
Social Impact	.492/.061	.890	
Impulsivity	.679/.063	.003*	Large
Relational Aggression	.586/.055	.160	
Overt Aggression	.715/.056	.000*	Large
Criterion: Placement in Disciplinary Alternative (n = 16)			
History[d]	.556/.079	.439	
Prosocial	.697/.055	.007*	Large
Social Preference	.645/.068	.046	Moderate
Social Impact	.577/.067	.294	
Impulsivity	.674/.066	.017	Large
Relational Aggression	.657/.049	.032	Moderate
Overt Aggression	.788/.043	.000*	Large

[a] Scores for Prosocial and Social Preference factors were negative scores.
b Null hypothesis: true area = 0.5
[c] Effect sizes > .660 are considered "large," and effect sizes between .600 and .659 are considered "moderate" (Rice & Harris, Journal of Consulting and Clinical Psychology, 1995, pp. 737-748).
[d] "History" is defined as the criterion variable measured in 2000 and in 2001.
[e] * significance level set at $p < .01$.

Table 2 Predictive Validity (2000 predictors and 2001 school disciplinary actions) (N = 838)

Factor [a]	Boys	Girls	Total Sample
Criterion: In-School Suspension (n = 82)			
Prosocial	Large	Moderate	Large
Impulsivity	Large	Large	Large
Overt Aggression	Large	Large	Large
Criterion: Out-of-School Suspension (n = 62)			
Prosocial	Large	Large	Large
Impulsivity	Small	Large	Moderate
Overt Aggression	Large	Large	Large
Criterion: Corporal Punishment (n = 23)			
Prosocial	Large	Large	Large
Impulsivity	Small	Large	Large
Overt Aggression	Large	Large	Large
Criterion: Placement in Disciplinary Alternative (n = 16)			
Prosocial	Large	Large	Large
Impulsivity	Moderate	Large	Large
Overt Aggression	Large	Large	Large

[c] Effect sizes > .660 are considered "large," and effect sizes between .600 and .659 are considered "moderate" (Rice & Harris, Journal of Consulting and Clinical Psychology, 1995, pp. 737-748).

Discussion

The findings from this study support past research on the relative long-term stability of the six peer nomination factors. Furthermore, the stability of prosocial, social preference, impulsivity, relational aggression, and overt aggression were comparable to each other. The findings regarding the stability of social impact was far less stable than the other factors.

The examination of future risk for school maladjustment revealed that only three of the six factors adequately predicted school disciplinary actions. The results indicated that when considered independently only high overt aggression, lack of prosocial behaviors, and high impulsivity were each consistently strongly predictive of future disciplinary actions. Furthermore, peer nominations for overt aggression and lack of prosocial behaviors were better predictors of future disciplinary actions than were past disciplinary actions. Consistent with prior research, the current findings emphasize that children's demonstration of positive social behavior is as important in predicting classroom adjustment as is children's negative and disruptive behaviors. In contrast, peer nominations of social preference, relational aggression, and social impact were not consistently related to future disciplinary actions. Although past research has found some association of these factors with level of social adjustment, they do not seem to be associated with the types of behaviors that result in school disciplinary actions. Research examining the relation between these behaviors and teacher's judgment regarding disciplinary actions is essential in understanding the present findings. Finally, the results suggest that impulsive behavior is a stronger predictor of school disciplinary actions for

girls than for boys. This may be due to a higher base rate of impulsive behavior for boys or due to distinct reactions teachers have to impulsive girls versus impulsive boys.

Overall, these results suggest that peer nominations could be used as valid measures of future disciplinary actions. Future research should examine the specific relations between peer nomination factors and school based decisions to implement disciplinary actions. In addition, these factors should be further evaluated in relation to other well-established predictors of disciplinary problems, such as sex, age, ethnicity, and socioeconomic status.

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Organization/Address: Texas Tech University, Dept. of Psychology, Lubbock TX 79409	Telephone: 806 742 3711 ex. 247 FAX: 806 742 0818
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